

U.S. Department of Energy

Fleet Alternative Fuel Vehicle Acquisition Report

Compliance with EPAct and E.O. 13149 in Fiscal Year 2004

This report summarizes the U.S. Department of Energy's (DOE) fiscal year (FY) 2004 fleet performance in meeting the requirements of the Energy Policy Act (EPAct) of 1992 (Public Law 102-486), as amended by the Energy Conservation Reauthorization Act of 1998 (Public Law 105-388), and in meeting the goals of Executive Order (E.O.) 13149, "Greening the Government through Federal Fleet and Transportation Efficiency" (65 FR 24607), which was signed in April 2000 (Exhibit 1).

Exhibit 1. DOE's Performance in Meeting EPAct and E.O. 13149 Requirements, FY 2004

Authority/ Mandate	Performance Measure	Goal/Requirement	DOE Performance in FY 2004
EPAct	Alternative Fuel Vehicle (AFV) acquisitions	75 percent of the 1,065 covered light-duty vehicles (LDV) acquired in FY 2004 must be AFVs	Acquired 880 AFVs, earned 177 additional credits ¹ for total of 1,057 credits; or 99 percent of covered acquisitions
E.O. 13149	Alternative fuel use in AFVs	By FY 2005, increase alternative fuel use in AFVs to a majority of the total fuel used in those vehicles	Achieved 21 percent alternative fuel use in AFVs
	Fuel economy of light-duty acquisitions	By FY 2005, increase fuel economy by 3 miles per gallon (mpg) compared to FY 1999 baseline of 17 mpg	Increased to 19.1 mpg, an increase of 2.1 mpg over FY 1999 baseline
	Petroleum consumption	By FY 2005, reduce covered consumption by 20 percent compared to FY 1999 baseline ² of 6,979,418 gasoline gallon equivalents (GGE)	Consumed 6,857,174 GGE, a decrease of 1.8 percent from the baseline

¹Credits earned for acquisition of dedicated light-, medium-, and heavy-duty AFVs and for use of biodiesel.

²Baseline adjusted in FY 2004 to account for unreported fuel use.

EPAct Compliance

For the sixth consecutive year, DOE exceeded its EPAct requirements in FY 2004. As a result of its AFV acquisitions and biodiesel fuel use, DOE in FY 2004 earned AFV acquisition credits amounting to 99 percent of DOE's covered vehicle acquisitions, which is 24 percentage points higher than the 75 percent AFV acquisition requirement (Appendix A). In short, DOE:

- Acquired 1,065 EPAct-covered light-duty vehicles (LDV). Of these, 880 were AFVs—81 more vehicles than the 75 percent compliance requirement of 799 AFVs.
- Received an additional 177 credits through the acquisition of dedicated medium-duty AFVs and the use of biodiesel.
- Earned a total of 1,057 credits (including vehicle acquisitions and credits)—99 percent of covered acquisitions.

Credits

In FY 2004, DOE earned 1,057 credits. Federal fleets earn one credit for every bi- or flexible-fuel AFV acquired and for every 450 gallons of neat biodiesel (B100) or 2,250 gallons of B20 (20 percent biodiesel and 80 percent petroleum diesel) used. Additional credits are earned for AFVs that operate exclusively on alternative fuels. For this reporting period, DOE earned 880 credits for AFV acquisitions, 165 credits for biodiesel use, and 12 additional credits for acquiring six dedicated medium-duty AFVs.

Vehicles

Flexible-fuel vehicles (FFV) that can run on E85 (85 percent ethanol, 15 percent gasoline) or gasoline were the AFV of choice in FY 2004. Of the 880 AFVs acquired in FY 2004, 811 of them were FFVs. Also, 67 compressed natural gas (CNG) vehicles and two propane (also called LPG, liquefied petroleum gas) vehicles were acquired.

FFVs operating on E85 comprise the majority of DOE's AFV fleet (Exhibit 2), with CNG vehicles making up most of the balance. As the availability of gaseous fuel (CNG and LPG) vehicle models decreases, these vehicle types will become less prevalent in DOE's fleet. Liquefied natural gas (LNG) vehicles account for only 44 of DOE's 3,549 AFVs.

Exemptions

Of the 1,519 total LDVs acquired by DOE in FY 2004, 454 vehicles (30 percent) were considered exempt from compliance with EPAct. Exemptions are granted for fleet size, geographic location or use outside a Metropolitan Statistical Area/Consolidated Metropolitan Statistical Area (MSA/CMSA), and use for law enforcement. In FY 2004, exemptions were granted as follows:

- Fleet Size (7)
- Geographic (133)
- Law Enforcement (43)
- Non-MSA/CMSA Operation/Fleet (255)
- Non-MSA/CMSA Operation/Vehicles (16)

FY 2005/2006 Projected Acquisitions

The attachments to this report offer a detailed look at DOE's FY 2004 acquisitions and its projected acquisitions for FY 2005 and FY 2006. As illustrated in Exhibit 3, DOE has exceeded its annual EPAct requirements since 1999 and plans to continue to exceed these requirements in the next two years (Appendices B and C). It is noteworthy that DOE's EPAct compliance has generally been achieved through AFV acquisitions and enhanced by biodiesel use.

Exhibit 2. DOE's Total AFV Inventory

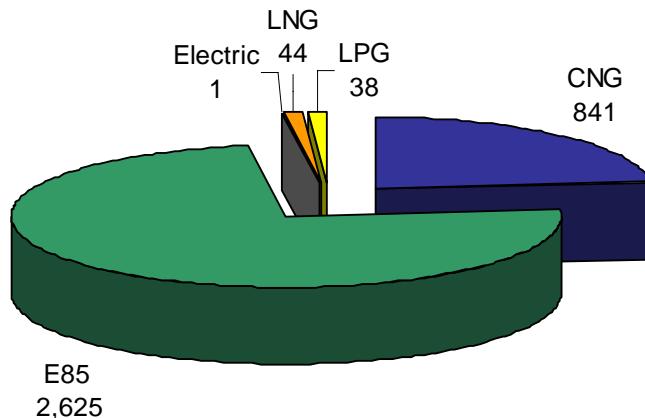
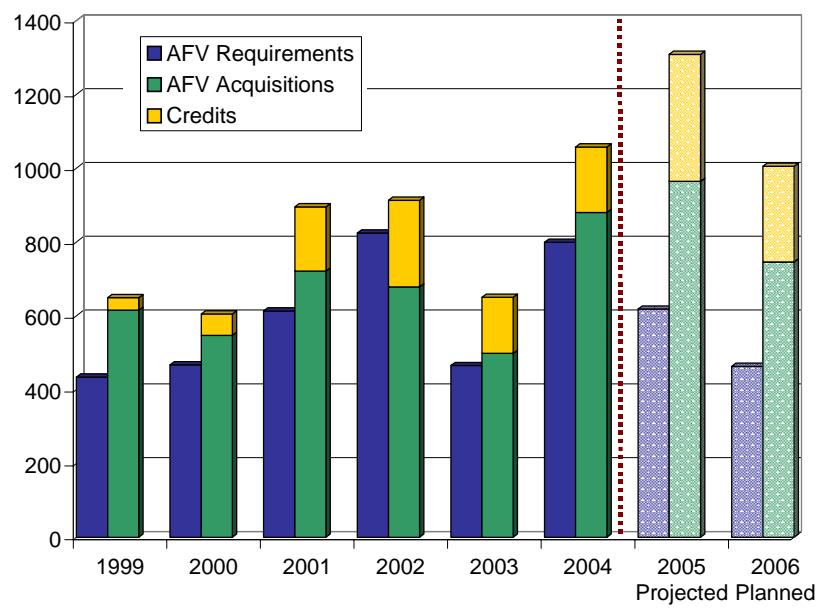


Exhibit 3. EPAct AFV Acquisitions, Credits, and Requirements (Actual and Projected)



E.O. 13149 Compliance

E.O. 13149 calls for each agency to reduce vehicular petroleum consumption by 20 percent by the end of FY 2005, and specifies three approaches agencies should take to achieve this goal:

- Comply with EPAct's annual AFV acquisition requirements (as previously discussed).
- Use alternative fuels in fleet AFVs the majority of the time.
- Increase the fuel economy of LDV acquisitions (excluding AFVs) by 3 mpg by the end of FY 2005, as compared to baseline FY 1999 acquisitions.

Use Alternative Fuels in AFVs

In FY 2004, 21 percent of the fuel used in DOE AFVs was alternative fuels. One reason for the relatively low alternative fuel use rate is the lack of sufficient alternative fuel infrastructure. To remedy this, DOE invested \$2.1 million to build new alternative fuel stations at DOE locations throughout the United States. DOE identified 12 of the largest DOE fleets and strategically funded stations based on need. Because of the time it takes to plan and build stations, many of the fueling sites are now just opening for business. Exhibit 4 shows the locations of DOE fueling sites available in FY 2004 or anticipated in FY 2005. For a complete list of stations, see Appendix D.

Exhibit 4. DOE's Alternative Fuel Sites

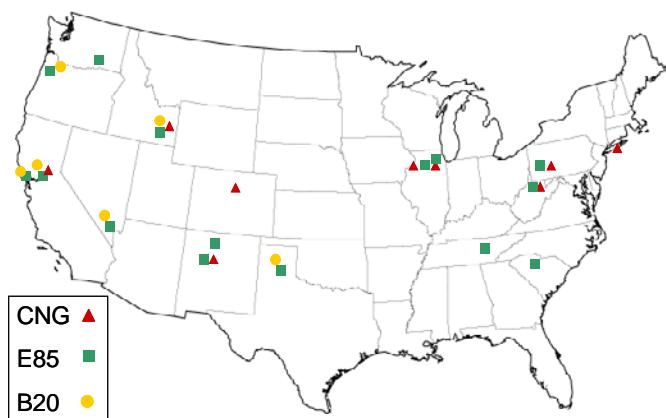


Exhibit 5 compares DOE's covered fuel use in FY 2004 and FY 1999. Alternative fuels comprise a growing portion of DOE's covered fuel use, representing 6.5 percent in FY 2004, up from less than one percent in FY 1999. During this period, DOE's total covered fuel consumption increased 4.6 percent, yet DOE was able to reduce covered petroleum consumption by 1.8 percent, largely by replacing petroleum fuel with alternative fuel.

Exhibit 5. DOE's Total Covered Fuel Use

Fuel Use	FY 1999 (GGE)	FY 2004 (GGE)
Alternative Fuel		
B100	116	82,583
CNG	3,876	78,504
E85	996	272,158
Electricity	0	12
LNG	167	36,854
Propane	25,010	6,519
Total Alternative Fuel Use	30,165	476,630
Petroleum		
Diesel	2,097,562	1,774,421
Gasoline	4,881,856	5,082,753
Total Covered Petroleum Use	6,979,418	6,857,174
<i>Total Covered Fuel Use</i>	<i>7,009,583</i>	<i>7,333,804</i>
<i>Alternative Fuel Use as a Percentage of Total Fuel Use</i>	<i>0.4 percent</i>	<i>6.5 percent</i>

Improve Fuel Economy

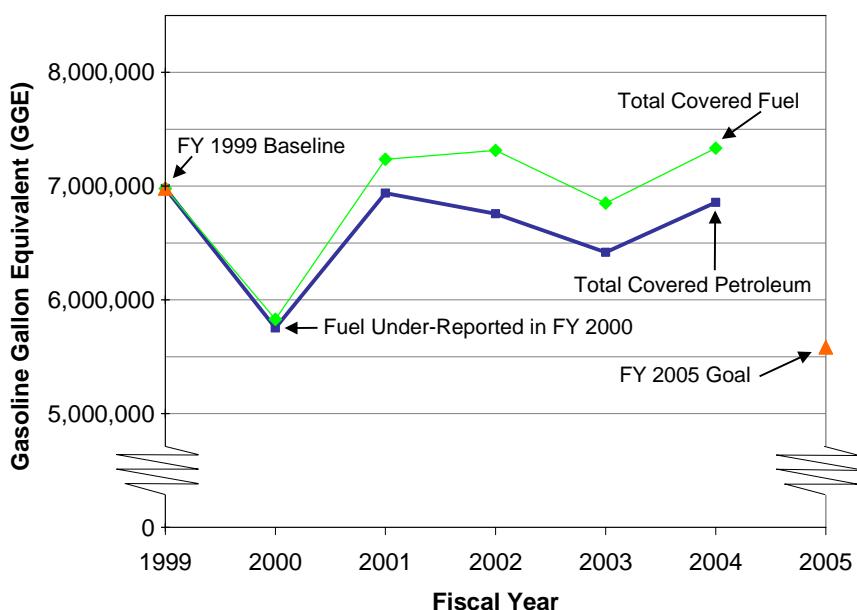
Toward the 20 percent petroleum reduction goal set forth in E.O. 13149, the E.O. calls for each agency to increase the fuel economy of its LDV acquisitions (excluding AFVs). Each year since FY 1999 DOE has increased the average fuel economy of its vehicles and is on track for achieving the 3 mpg improvement by the end of FY 2005.

Petroleum Consumption Progress Report

In FY 2004, DOE consumed 476,630 GGE of alternative fuels, thereby reducing gasoline and diesel fuel consumption in DOE vehicles.

Exhibit 6 shows that although DOE has not approached the 20 percent reduction goal it has been successful in displacing petroleum. Without E.O. 13149, DOE's covered petroleum consumption would have grown from 7 million GGE in FY 1999 to 7.3 million GGE in FY 2004. However, due to alternative fuel use, covered petroleum consumption dropped to 6.9 million GGE.

Exhibit 6. DOE's Vehicular Petroleum Consumption



DOE Fleet Successes

In FY 2004, three DOE fleets, Savannah River Site, National Renewable Energy Laboratory, and the National Energy Technology Laboratory (Pittsburgh, Pennsylvania), collectively consumed more than 38 percent of the alternative fuel used by the total DOE fleet. By employing unique approaches among fleet personnel, these fleets individually achieved alternative fuel use rates of 30 percent (and higher) of their entire annual fuel use. These three fleets were nominated as a group by DOE for the FY 2005 White House Closing the Circle Awards.

Summary and Conclusions

In FY 2004, DOE exceeded its EPAct FY 2004 AFV acquisition requirements and expects to exceed them in FY 2005 and FY 2006. Towards compliance with E.O. 13149, DOE used alternative fuels in its AFVs 21 percent of the time, achieved a 2.1 mpg increase in fuel economy, and reduced its petroleum consumption by 1.8 percent as compared to FY 1999. DOE is continuing its efforts to reduce petroleum consumption through increased alternative fuel usage beyond 75 percent, accelerating the replacement of conventional vehicles with AFVs, and acquiring hybrid and fuel efficient vehicles for fleets not covered. DOE also issued a DOE Directive on March 8, 2004, requiring all DOE elements to implement measures to reduce vehicle petroleum consumption. Exhibit 7 summarizes DOE's performance.

Exhibit 7. DOE's Performance in Meeting its Requirements

	FY 1999 Baseline	FY 2004	Change FY 1999 vs. FY 2004
EPAct	N/A	99 percent	N/A
Alternative Fuel Use in AFVs	N/A	21 percent	N/A
Fuel Economy of LDV Acquisitions	17 mpg	19.1 mpg	+2.1 mpg
Petroleum Consumption	6,979,418 GGE	6,857,174 GGE	-1.8 percent

Appendices

Appendix A

Actual FY 2004 Light-Duty Vehicle Acquisitions				Total Vehicle Inventory
	Leased	Purchased	Total	
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions	1,312	207	1,519	8,313
Exemptions	Fleet Size	7	0	7
	Geographic	89	44	133
	Law Enforcement	43	0	43
	Non-MSA Operation (fleet)	254	1	255
	Non-MSA Operation (vehicles)	16	0	16
	EPAct Covered Acquisitions	903	162	1,065
Actual FY 2004 AFV Acquisitions				Total Vehicle Inventory
Vehicle	Leased	Purchased	Total	
Sedan CNG Bi-Fuel Subcompact	9	0	9	65
Sedan CNG Dedicated Subcompact	0	0	0	6
Sedan Electric Dedicated Subcompact	0	0	0	1
Sedan CNG Bi-Fuel Compact	3	0	3	65
Sedan E85 Flex-Fuel Compact	145	6	151	260
Sedan CNG Bi-Fuel Midsize	0	0	0	6
Sedan E85 Flex-Fuel Midsize	59	5	64	237
Sedan CNG Dedicated Large	0	0	0	4
Pickup 4x2 CNG Bi-Fuel	16	2	18	332
Pickup 4x2 CNG Dedicated	0	0	0	77
Pickup 4x2 E85 Flex-Fuel	130	22	152	695
Pickup 4x2 LNG Bi-Fuel	0	0	0	33
Pickup 4x2 LPG Bi-Fuel	0	0	0	26
Pickup 4x4 CNG Bi-Fuel	7	0	7	120
Pickup 4x4 E85 Flex-Fuel	101	28	129	169
Pickup 4x4 LNG Bi-Fuel	0	0	0	4
Pickup 4x4 LPG Bi-Fuel	2	0	2	9
SUV 4x2 CNG Bi-Fuel	1	0	1	1
SUV 4x2 E85 Flex-Fuel	2	0	2	5
SUV 4x4 E85 Flex-Fuel	107	11	118	392
Minivan 4x2 (Pass) CNG Dedicated	0	0	0	2
Minivan 4x2 (Pass) E85 Flex-Fuel	133	46	179	718
Minivan 4x2 (Cargo) E85 Flex-Fuel	0	0	0	3
Van 4x2 (Pass) CNG Bi-Fuel	0	1	1	3
Van 4x2 (Pass) CNG Dedicated	0	0	0	1
Van 4x2 (Pass) E85 Flex-Fuel	16	0	16	146
Van 4x2 (Cargo) CNG Bi-Fuel	2	2	4	13
Other 4x2 CNG Bi-Fuel	0	0	0	1
Other 4x2 CNG Dedicated	0	0	0	5
Bus LNG Bi-Fuel	0	0	0	7
Pickup MD CNG Bi-Fuel	7	0	7	39
Van MD (Pass) CNG Bi-Fuel	7	0	7	39

Table continued on page A3.

Van MD (Pass)	CNG Dedicated	2	0	2	9
Van MD (Cargo)	CNG Bi-Fuel	4	0	4	22
Van MD (Cargo)	CNG Dedicated	0	4	4	30
Van MD (Cargo)	LPG Bi-Fuel	0	0	0	2
Emergency/Emergency Response MD 8,501-16,000 GVWR	CNG Bi-Fuel	0	0	0	1
Emergency/Emergency Response HD 16,001 + GVWR	LPG Bi-Fuel	0	0	0	1
Total Number of AFV Acquisitions		753	127	880	3,549
Zero Emission Vehicle Credits		0	0	0	
Dedicated Light-Duty AFV Credits		0	0	0	
Dedicated Medium-Duty AFV Credits		4	8	12	
Dedicated Heavy-Duty AFV Credits		0	0	0	
Biodiesel Fuel Usage Credits - Actuals					165
Total AFV Acquisitions with Credits		757	135	1,057	
AFV Percentage of Covered Light-Duty Vehicle Acquisition				99%	

Appendix B

Planned FY 2005 Light-Duty Vehicle Acquisitions				
		Leased	Purchased	Total
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		975	263	1,238
Fleet Size	Fleet Size	2	0	2
	Geographic	56	145	201
	Law Enforcement	49	2	51
	Non-MSA Operation (fleet)	137	0	137
	Exemptions	Non-MSA Operation (vehicles)	23	0
EPAct Covered Acquisitions		708	116	824
Planned FY 2005 AFV Acquisitions				
	Vehicle	Leased	Purchased	Total
Sedan	CNG Dedicated Subcompact	1	0	1
Sedan	CNG Bi-Fuel Compact	3	0	3
Sedan	E85 Flex-Fuel Compact	117	10	127
Sedan	E85 Flex-Fuel Midsize	94	26	120
Sedan	CNG Dedicated Large	3	0	3
Pickup 4x2	CNG Bi-Fuel	11	0	11
Pickup 4x2	CNG Dedicated	3	8	11
Pickup 4x2	E85 Flex-Fuel	145	38	183
Pickup 4x4	CNG Bi-Fuel	1	0	1
Pickup 4x4	E85 Flex-Fuel	44	45	89
Pickup 4x4	LPG Bi-Fuel	3	0	3
SUV 4x4	E85 Flex-Fuel	157	35	192
Minivan 4x2 (Pass)	CNG Bi-Fuel	4	0	4
Minivan 4x2 (Pass)	E85 Flex-Fuel	66	40	106
Minivan 4x2 (Cargo)	E85 Flex-Fuel	3	11	14
Van 4x2 (Pass)	E85 Flex-Fuel	21	7	28
Van 4x2 (Cargo)	CNG Bi-Fuel	1	0	1
Pickup MD	CNG Bi-Fuel	44	0	44
Van MD (Pass)	CNG Bi-Fuel	9	2	11
Van MD (Pass)	CNG Dedicated	1	0	1
Van MD (Cargo)	CNG Bi-Fuel	1	0	1
Van MD (Cargo)	CNG Dedicated	0	9	9
HD 16,001 + GVWR	CNG Bi-Fuel	1	0	1
Total Number of AFV Acquisitions		733	231	964
Zero Emission Vehicle Credits		0	0	0
Dedicated Light-Duty AFV Credits		7	8	15
Dedicated Medium-Duty AFV Credits		2	18	20
Dedicated Heavy-Duty AFV Credits		0	0	0
Biodiesel Fuel Usage Credits - Planned				309
Total AFV Acquisitions with Credits		742	257	1,308
AFV Percentage of Covered Light-Duty Vehicle Acquisition				159%

Appendix C

Projected FY 2006 Light-Duty Vehicle Acquisitions				
		Leased	Purchased	Total
Total number of Light-Duty (8,500 GVWR) - Vehicle Acquisitions		738	239	977
Fleet Size		3	0	3
Geographic		45	116	161
Law Enforcement		45	4	49
Non-MSA Operation (fleet)		120	0	120
Exemptions	Non-MSA Operation (vehicles)	27	0	27
EPAct Covered Acquisitions		498	119	617
Projected FY 2006 AFV Acquisitions				
Vehicle		Leased	Purchased	Total
Sedan	CNG Bi-Fuel Subcompact	12	0	12
Sedan	CNG Bi-Fuel Compact	13	0	13
Sedan	E85 Flex-Fuel Compact	49	9	58
Sedan	CNG Bi-Fuel Midsize	1	0	1
Sedan	E85 Flex-Fuel Midsize	42	26	68
Sedan	CNG Dedicated Large	0	2	2
Pickup 4x2	CNG Bi-Fuel	33	0	33
Pickup 4x2	CNG Dedicated	0	5	5
Pickup 4x2	E85 Flex-Fuel	105	48	153
Pickup 4x4	E85 Flex-Fuel	19	14	33
SUV 4x2	E85 Flex-Fuel	0	3	3
SUV 4x4	CNG Bi-Fuel	1	0	1
SUV 4x4	E85 Flex-Fuel	130	30	160
Minivan 4x2 (Pass)	CNG Bi-Fuel	1	0	1
Minivan 4x2 (Pass)	CNG Dedicated	1	0	1
Minivan 4x2 (Pass)	E85 Flex-Fuel	81	37	118
Minivan 4x2 (Cargo)	E85 Flex-Fuel	11	1	12
Van 4x2 (Pass)	CNG Bi-Fuel	1	0	1
Van 4x2 (Pass)	E85 Flex-Fuel	33	15	48
Van 4x2 (Cargo)	CNG Bi-Fuel	1	0	1
Pickup MD	CNG Bi-Fuel	4	0	4
Van MD (Pass)	CNG Bi-Fuel	5	3	8
Van MD (Pass)	CNG Dedicated	0	1	1
Van MD (Cargo)	CNG Dedicated	1	8	9
Total Number of AFV Acquisitions		544	202	746
Zero Emission Vehicle Credits		0	0	0
Dedicated Light-Duty AFV Credits		1	7	8
Dedicated Medium-Duty AFV Credits		2	18	20
Dedicated Heavy-Duty AFV Credits		0	0	0
Biodiesel Fuel Usage Credits - Projected				231
Total AFV Acquisitions with Credits		547	227	1,005
AFV Percentage of Covered Light-Duty Vehicle Acquisition				163%

Appendix D

DOE's Alternative Fuel Sites

E85

Site	City	State
Lawrence Berkeley National Laboratory	Berkeley	CA
Argonne National Laboratory	Argonne	IL
Idaho National Engineering and Environmental Laboratory	Idaho Falls	ID
Fermi National Accelerator Laboratory	Batavia	IL
Sandia National Laboratory	Albuquerque	NM
National Energy Technology Laboratory	Pittsburgh	PA
Savannah River Site – 2 sites	Aiken	SC
Oak Ridge National Laboratory – 2 sites	Oak Ridge	TN
Pantex	Amarillo	TX
National Energy Technology Laboratory	Morgantown	WV
Lawrence Livermore National Laboratory*	Livermore	CA
Los Alamos National Laboratory* – 2 sites	Los Alamos	NM
Nevada Test Site* – 2 sites	Las Vegas	NV
Bonneville Power Administration*	Portland	OR
Richland Hanford Site*	Richland	WA

CNG

Site	City	State
National Energy Technology Laboratory	Pittsburgh	PA
National Energy Technology Laboratory	Morgantown	WV
Sandia National Laboratory	Albuquerque	NM
Idaho National Engineering and Environmental Laboratory	Idaho Falls	ID
National Renewable Energy Laboratory	Golden	CO
Fermi National Accelerator Laboratory	Batavia	IL
Lawrence Livermore National Laboratory	Livermore	CA
Brookhaven National Laboratory	Upton	NY
Argonne National Laboratory	Argonne	IL

B20

Site	City	State
Idaho National Engineering and Environmental Laboratory*	Idaho Falls	ID
Lawrence Livermore National Laboratory*	Livermore	CA
Pantex	Amarillo	TX
Bonneville Power Administration-Willamette	Portland	OR
Nevada Test Site	Las Vegas	NV
Lawrence Berkeley National Laboratory	Berkeley	CA

* Indicates fueling sites that will be completed in 2005.

Appendix E

List of Acronyms

Acronym	Phrase
AFV	Alternative Fuel Vehicle
B100	Biodiesel (100 percent, neat)
B20	Biodiesel (20 percent biodiesel, 80 percent petroleum diesel)
CNG	Compressed Natural Gas
DOE	U.S. Department of Energy
E85	Ethanol (85 percent ethanol, 15 percent petroleum)
E.O.	Executive Order
EPAct	Energy Policy Act of 1992
FFV	Flexible Fuel Vehicle
FR	Federal Register
FY	Fiscal Year
GGE	Gasoline Gallon Equivalent
GVWR	Gross Vehicle Weight Rating
HD	Heavy-Duty
LD	Light-Duty
LDV	Light-Duty Vehicle
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas (Propane)
MD	Medium-Duty
MPG	Miles Per Gallon
MSA/CMSA	Metropolitan Statistical Area/Consolidated Metropolitan Statistical Area
SUV	Sport Utility Vehicle